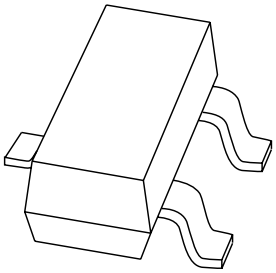
DATA SHEET



PMBT6428; PMBT6429
NPN general purpose transistors

Product data sheet
Supersedes data of 1999 Apr 27

2004 Jan 22

NPN general purpose transistors PMBT6428; PMBT6429

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 50 V).

APPLICATIONS

- General purpose switching and amplification
- Telephony and professional communication equipment.

DESCRIPTION

NPN transistor in a SOT23 plastic package.

MARKING

TYPE NUMBER	MARKING CODE(1)
PMBT6428	*1K
PMBT6429	*1L

Note

1. * = p : Made in Hong Kong.
   * = t : Made in Malaysia.
   * = W : Made in China.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

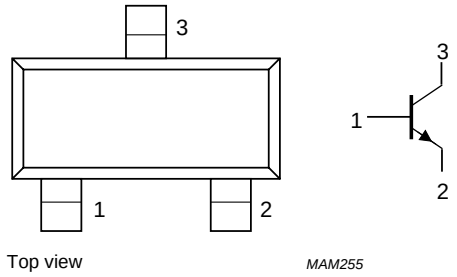


Fig.1 Simplified outline SOT23 and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
PMBT6428	–	plastic surface mounted package; 3 leads	SOT23
PMBT6429			

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	PMBT6428		–	60	V
	PMBT6429		–	55	V
V_{CEO}	collector-emitter voltage	open base			
	PMBT6428		–	50	V
	PMBT6429		–	45	V
V_{EBO}	emitter-base voltage	open collector	–	6	V
I_C	collector current (DC)		–	100	mA
I_{CM}	peak collector current		–	200	mA
I_{BM}	peak base current		–	200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	250	mW
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		−65	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

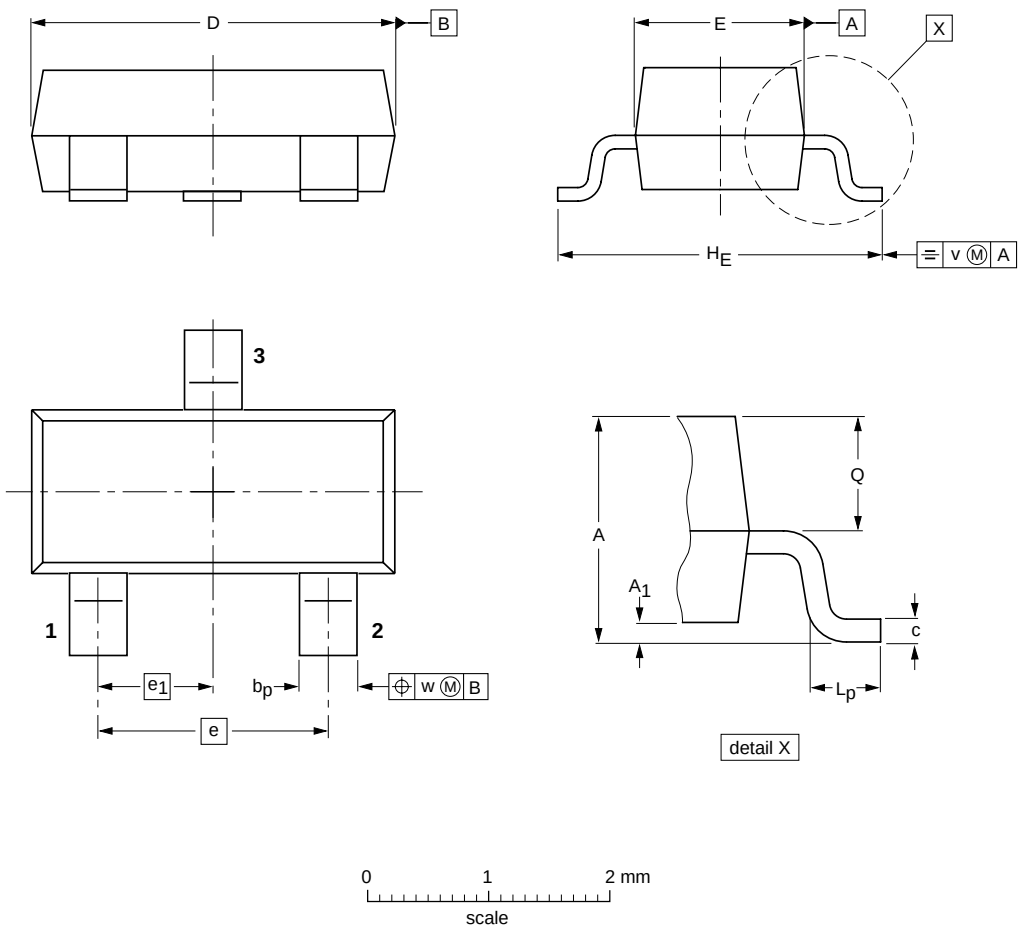
CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = 30 V	–	10	nA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = 5 V	–	10	nA
h_{FE}	DC current gain	I_C = 0.1 mA; V_{CE} = 5 V			
	PMBT6428		250	650	
	PMBT6429		500	1250	
	DC current gain	I_C = 1 mA; V_{CE} = 5 V			
	PMBT6428		250	–	
	PMBT6429		500	–	
	DC current gain	I_C = 10 mA; V_{CE} = 5 V			
	PMBT6428		250	–	
	PMBT6429		500	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = 10 mA; I_B = 0.5 mA	–	200	mV
		I_C = 100 mA; I_B = 5 mA	–	600	mV
V_{BE}	base-emitter voltage	I_C = 1 mA; V_{CE} = 5 V	560	660	mV
C_c	collector capacitance	I_E = i_e = 0; V_{CB} = 10 V; f = 1 MHz	–	3	pF
C_e	emitter capacitance	I_C = i_c = 0; V_{EB} = 0.5 V; f = 1 MHz	–	12	pF
f_T	transition frequency	I_C = 1 mA; V_{CE} = 5 V; f = 100 MHz	100	700	MHz

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads **SOT23**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max.	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT23		TO-236AB				~~04-11-04~~ 06-03-16

DATA SHEET STATUS

DOCUMENT STATUS[1]	PRODUCT STATUS[2]	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

1. Please consult the most recently issued document before initiating or completing a design.
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NXP Semiconductors

Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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